

LONG
ISLAND
SINCLAIR
TIMEX

GROUP

L.I.S.T.ING

September
1985

Issue Price \$1.50

MEETING NOTES - July 27, 1985

After some initial confusion, the July LIST meeting was called to order at 2:30PM at the Huntington Public Library. Paul D. announced that the treasury would be able to support the newsletter, as long as the outside help we were currently receiving (from employers) continues. Member #111 has been assigned. Jeff announced that he has the back issues of exchange newsletters organized and available for member inspection. The indexing has yet to begin.

Discussion centered around the newsletter and it was announced that the following positions will be vacant as of Jan. 1, 1986.

Publisher (arranges materials, finances etc.)
Editor-in-Chief, Vendor/Catalog editor, Communications editor
Production Manager - (runs off the copies)
Distribution Manager (assembles & mails the letters)

The 30 or so members present were requested to consider volunteering for these positions. If you feel you could serve in one of these capacities, please contact Paul Donnelly, through LIST. S. Newfeld volunteered to help distribute this issue, but more help is needed. Paul D. also noted that we need to find a new local and inexpensive print shop. The costs to produce a newsletter of LISTing's size & quality were discussed and members were asked to investigate print shops in their areas. LIST (Letters) is produced in about 150 copies each month. The newsletter has often been 12 pages printed both sides. It is mailed First Class (\$.39 for 12 pages). Please provide quotes for copying, collating and stapling.

Andy G. noted that the Zebra BBS is no longer functioning, though Zebra tells him they have plans to resurrect it in the fall.

Nazir R. volunteered SUNY Stony Brook as a meeting site, but this was not well received by our members from the western end of the Island and was tabled. Other meeting places are still being sought.

Paul D. requested that members bring back any material they have borrowed from the Library. This includes complimentary issues of magazines like TS Horizons and Time Designs. Our special thanks to Time Designs (subscription info inside) for providing 1 dozen copies of their July issue.

Eugene P. donated a large supply of books and magazines and Nazir donated an IC Master to the library.

NEXT MEETING - Chuck R. has set up the Christ Lutheran Church in East Northport for us on Sunday, September 8th at 2:00PM. See map for details.

DEMONSTRATION - Bob G. demoed the AERCO Dual disk drive. AERCO was late, but a call from Bob prompted them to air ship his unit in time for the meeting. The board seems well designed and easy to use (uses CAT & MOVE, for example).

Documentation is Spartan, though sufficient, says Bob. He recommends you learn something about disk drives before trying it on your own. A Schematic is supplied. Aerco is reported to have shipped about 50 systems. Stewart reports the ROM (it runs in AROS) is still receiving minor fixes and is currently in version #7.

CP/M availability is still a question, as minimum order from Digital Research is believed to be 500 units at a price tag of \$20-30,000. Aerco supplied a demo disk for purposes of our meeting with emasculated copies of popular game, business and utility software. The system was impressive and fast, despite the somewhat awkward mounting of the motherboard (STRAIGHT up on the back, no case)

Two 64 column modes were demoed at the meeting:

- 1) Jeff Sheet showed us his 64 column operating system - He has placed TASWORD type font style on EPROM, and revised the BASIC operating system to display text in this mode rather than 32 characters wide. The TASWORD character set is not a full 8 bits wide (only 4), but it still looks fairly good on the screen.

Nazir worked with Jeff to convert C. Choo's "Word" processor to work in this new operating mode.

- 2) Paul D. demoed Wes Brzozowski's 64 Column Basic. This allows you to use the "true" 64 column mode (8 bits/character) from BASIC. Not all BASIC commands or function are supported (e.g. Scroll? messes up the display files), but the 64 column display looks terrific on an RGB monitor. Wes's Program will be in the public domain, after it has been published in Synware News.

Paul also adapted C. Choo's "word" for use with this 64 column mode. His version will be on library tape #4 - due out in October or November '85.

Stewart N. will investigate sources of ZX81 kits for possible use by the hardware group.

Finally, Cedric B showed us the 2086, an "ultimate" customized 2068. Not only has he added a 77 key real keyboard, but he has mounted his 2068 in a beautifully hand crafted rosewood and leatherbound terminal box. With over 30 special function keys, his own LOAD-SAVE filter and on board RGB output, this is really a "super" machine. His fine second paper on Tape Cassettes is in this issue.

LIST GROUP
P.O. BOX 408
CENTERPORT, N.Y. 11721-0408

SAMPLE ARTICLE:

From Time Designs Magazine

I highly recommend this tape. Note the price. I bought mine from the U.K. at £4.99 (thats about \$750) and thought it a bargain at that price. And you get to feel good, too!

The July/August issue also contains a review of the Zebra Talker, Aerco FD-68 Disk Drive, 8K ROM upgrade for the TS1000 and such excellent Spectrum programs as Pyjamarama, Sherlock Holmes and Night Gunner. There are programing examples and hints and tips as well. All the ads are in the back and that's a plus, too.

LIST Group

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There is a cassette tape available featuring ten top hit game programs from England, for the Spectrum computer. All proceeds from the sale of the software go to the BAND-AID TRUST FUND to aid starving Ethiopians. The Band-Aid project was first implemented when British Pop Music Stars recorded and donated a Christmas song for the effort. The "greatest hits" tape is called SOFT AID, and contains the following games: Spellbound (Beyond), Starbike (The Edge), Kokotoni Wilf (Elite), The Pyramid (Fantasy), Horace Goes Ski-ing (Melbourne House/Psion), Gilligan's Gold (Ocean), Ant Attack (Quicksilva), 3D Tank Duel (Real-Time), Sorcery (Virgin), and Jack and the Beanstalk (Thor). On the "flip" side of the tape is the recorded version of the song "Do They Know It's Christmas?"

Rod Cousens of Quicksilva organised the software relief project, and hopes that it will raise some £200,000 for the Ethiopians. Here in the U.S. the SOFT AID Spectrum tape is available from Susan Ziegler, Software Services, 14307 BenBrush, San Antonio, TX 78248, for a mere \$6.25 plus \$2.00 for first class p & h. Bob Dyl of the English Micro Connection, 15 kilburn Ct., Newport, RI 02840 will also have substantial supplies of SOFT AID shortly. The British software producers have been very generous in their efforts. The tape is very reasonably priced, and everyone should obtain their own copy...pirated versions won't help dying people one bit. Note: There is also a version for the Commodore 64.

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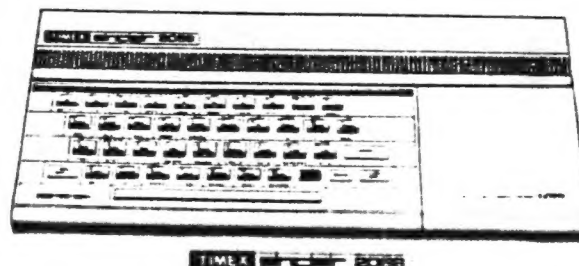
20

EDITORS NOTES: The first trail run of 25 or so issues of August's LIST newsletter had improper pagination. If you received one of these, please take note of Cedric's comments with this months article on tape loading.

In a clean 2068, POKE 26711,0 to get Line #

LICA BBS # (516) 561-6590

General Meetings are at N.Y. Inst. of Technology, Old Westbury Campus, Third Friday of each moth at 8:00PM. Room 508 Building 500.



IN THE MEDIA:

Steve Kaye has put Computer Living - New York on notice regarding T/S Computers (see his letter inside).

The September 1985 Computer Digest section of Radio Electronics magazine has an article by Jason Kinser on low tech "Voice Reproduction" for your 16K TS 1000. You can reproduce your voice using his short MC routine and some very simple, already assembled, hardware available from Radio Shack.

The July "Byte" magazine is dedicated to the use of computers in astronomy. Dick Fountain's "Byte U.K." column focuses on use of the Spectrum to perform data capture and processing on observations obtained by photoelectronic photometry

ON THE EXTRA SIMPLE. SPECTR/EMULATOR

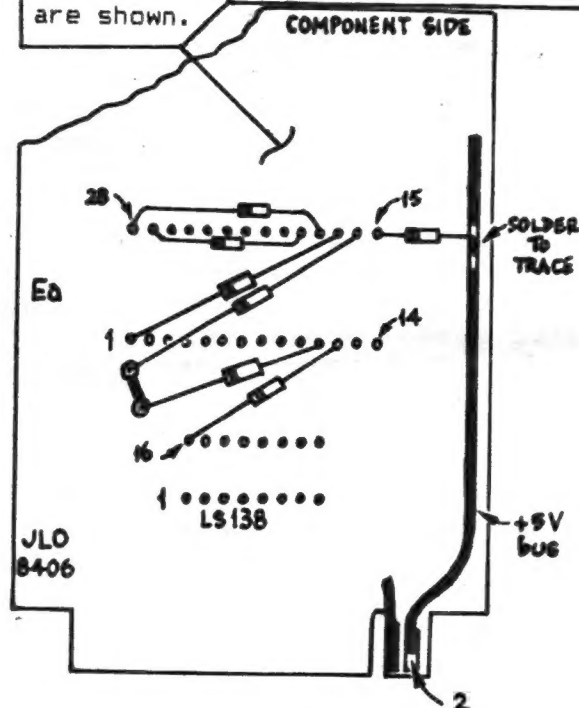
With reference to the LIST Newsletters of May/June 1985 (page 14) and July '85 (also page 14), in which an, in my opinion, very attractive Spectrum emulator design was presented, I thought that the readers of LIST might like to know how I completed this circuit on Oligers board. The illustration on the right explains itself.

I would like to note, however, that all those RAND USR 0 calls are not necessary. Neither is it necessary to wait and listen for the computer to do a "raspberry" on you!

When the computer is switched on, it is ALWAYS in the 2068-mode. To go into the Spectrum-mode, you only need to punch in OUT 244,3 <ENTER>. To go back to the 2068-mode, just power down the computer and power it up again. No need for all those commands listed in page 14 of the May/June N/L!

29 July, 1985

ROM placement, trace cut and jumpers as indicated in N/L before. Only the 7 pullup resistors (10 K) are shown.



Cedric R. Bastiaans

SUBMISSIONS TO LLIST (the Letter from LIST)

We encourage members and non-members alike to submit articles, reviews programs and graphics displays to LLIST. As it appears we may soon have to drop back to 6-2 sided pages in order to cut costs, brevity and clarity are particularly important. If you can submit material to LLIST, please try to follow these guidelines.

1. Keep your article as short as possible, while still covering the essential information. Please avoid editorializing, asides and the like (see example in para. 5 below)
2. Submit your material in either typed or computer printed form. Use single spacing.
3. Use Bold (on the Library tape) or double stroking to get a darker image on listing.
4. Do not use blue or Timex thermal paper. Use that available from Radio Shack.
5. Use REM statements where necessary. A 1 REM "PROGRAM NAME" is not needed in your listing. (This is an interesting point, some members have told me they thought the 1 REM "NAME" statement was needed by the system to find the program - Nothing of the sort. It's good practice, but not essential)
6. Provide MC listings in decimal, also.

MORE ON MAGNETIC TAPE CASSETTES

by Cedric R. Bastiaans

Page A

In this, part II of my short series on cassette tapes and our computers, I'd like to touch upon the DO's and the DON'Ts of magnetic tape techniques. But first a bit of erratum: If you didn't figure it out yourself, part I in the August issue of LIST was, unfortunately, printed in a wrong page sequence; the correct sequence is page 7, 10, 8, 9, 11 through 14. To prevent an error like this to become a source of irritation or confusion again, I have permanently marked the pages of the article I'm writing now, with letters A, B etc. This will not interfere with the Editor's re-numbering, while still allowing the reader to assure himself of the right sequence, should a re-numbering goof-up still occur!

PREAMBLE

During the development of the Compact Cassette format, the one single goal Philips of Holland had in mind, was to make the system as "fool-proof" as possible. This was quite a task, because one fool can easily make the work of a dozen wise men go down the drain...The cassette system was and is therefore NOT FOOLPROOF, but it represented a quantum leap forward in bringing convenient and inexpensive magnetic tape playing and recording to the masses. I do believe that practically every household in our modern world, which has a way to listen to or also record on magnetic tape, is doing this in the Compact Cassette format.

DROPOUTS

The thin and narrow tape, the very slow tape speed and hence the very short wavelengths involved, make the Compact Cassette System actually a rather vulnerable tape system. There are many undesirable ways of handling the cassette, which will lead to unrecoverable loss of data bits. I will attempt to describe these in the following paragraphs in hopes that the reader may learn something to his or her benefit.

A dropout is defined as a 60% reduction in the average signal amplitude occurring for 40 microseconds (fourty millionth of a second) or longer. Sixty percent means a drop in signal level of 8 dB.

Dropouts may be the result of any of the following:

a. Rough magnetic oxide surface of the tape.

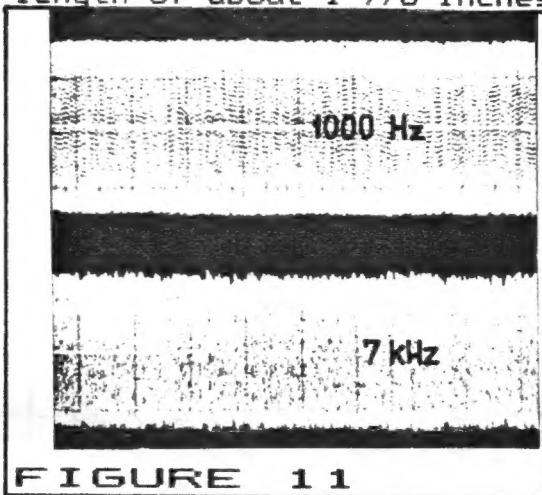
Most magnetic coatings are mixtures of acicular (needle shaped) gamma ferric oxide particles and suitable binders. The surface finish of the coating plays an important part in the electro-magnetic performance; a wide variety of finishes exists, tapes may or may not have been calendered and have polished coatings. Some tapes are unevenly coated, showing streaks, spots, islands or pinholes. The resulting response may be erratic and wavering; in extreme cases level changes of more than 10 dB have been encountered!

It is unfortunate that the SEM (Scanning Electron Microscope) pictures that I have of various tape surfaces (taken at a magnification of 5000x) will not properly reproduce here, not with this inadequate

xerographic process; they would otherwise very graphically show why some tape surfaces produce dropouts and others do not.

But there is another way of showing you the vulnerability of the Cassette System. In the following tests, a new and unused tape was first unpacked in a fairly dust-free environment, fastwound to its approximate center and then recorded with linearly mixed 1 kHz and 7 kHz sinewave signals. This allows the simultaneous evaluation of the occurrence of dropouts at medium and short wavelengths. During playback of this recorded program, the composite signal was fed to a dual-channel oscilloscope, via a 1 kHz bandpass (BP) filter and a 7 kHz BP filter.

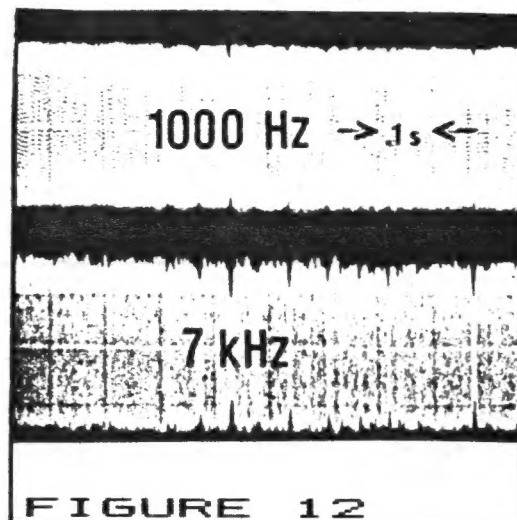
More than 80 inches of tape were thusly visually monitored and Polaroid pictures were taken of representative portions. The sweep time on the scope was 1 second so that each photo shows a tested tape length of about 1 7/8 inches.



Two signal envelopes are shown on each picture (Figure 11), one for the 1 kHz signal (wavelength $\lambda = 47.5 \mu\text{m}$), placed on top of the photograph and another for the 7 kHz signal ($\lambda = 6.8 \mu\text{m}$), placed on the bottom of the picture. Somewhat ragged outlines of the signal envelope are normal at the short wavelengths; extreme raggedness (prairie grass) would indicate a rough oxide surface or a like problem.

This photograph (11) represents the performance of a very good cassette tape. Not every tape is as good as this one, though!

Figure 12 is an example of a tape with a few dropouts. Note that since the two signals were SIMULTANEOUSLY recorded, the oscillogram shows the occurrence of dropouts in one signal envelope coinciding with that in the other. It can be readily seen that whatever the cause of these dropouts, the level drops are more severe at the short wavelength.



I have, in the course of time, checked out many cassette tapes and found large differences between different brands. Some brands were found to be superior to others when first used (virgin tapes). But in the course of time, the differences could become less with repeated use. Nevertheless, there are intrinsically excellent tapes and there are real bad ones.

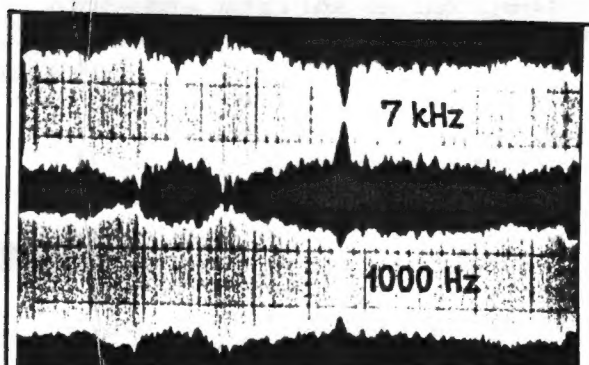


FIGURE 13

Figure 13 is an example of a rather atrocious performance. This tape is totally unusable; even speech recorded on this tape is of unacceptable quality and sounds warbled. This manufacturer has not acquired the knowledge and technique to coat with any reasonable degree of uniformity, the deposits being made in clumps and streaks.

The next figure 14 shows a graphical depiction of the views I got from shining a bright light through some of the bad quality tapes which I encountered.

If the tape coating would have been uniformly deposited, I would have seen a homogeneously brownish, somewhat translucent color. Instead, I have seen, like the illustration shows, examples of "pyjama stripes", regularly spaced "islands" or "polka dots"; all results of very poor, uneven coating!

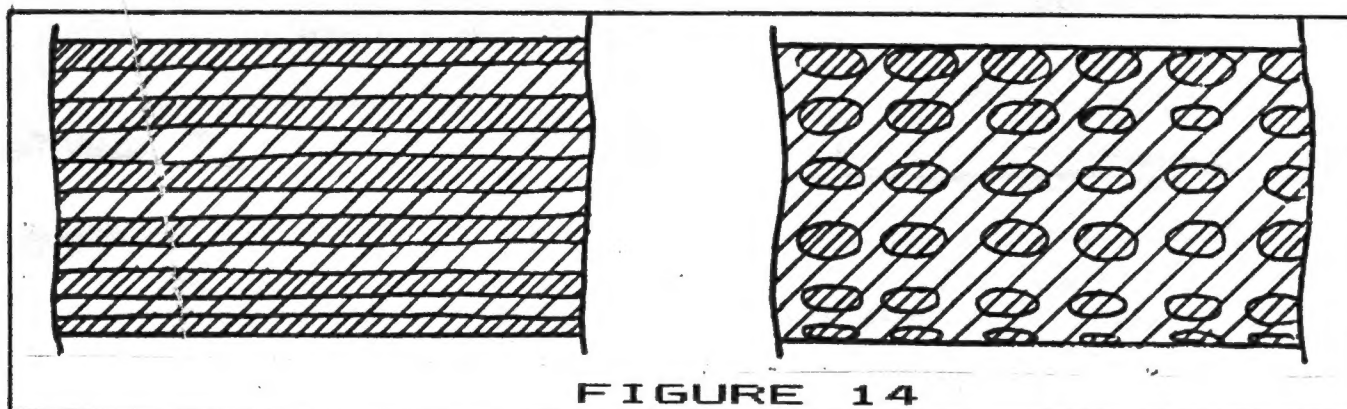


FIGURE 14

The better brands are consistently high in quality; as is to be expected, they are also the more expensive ones. But one does not have to buy the top of the line in the best brands.

STAY AWAY FROM CHEAP CASSETTE TAPES; BUY ONLY RENOWNED BRANDS IN SEALED BOXES.

DO NOT USE HIGH-BIAS TAPES (CHROMIUM DIOXIDE OR METAL); THE LITTLE CASSETTE RECORDERS WILL NOT PROVIDE ENOUGH BIAS AND THESE EXPENSIVE TAPES WILL THEN HAVE AN UNACCEPTABLE DROPOUT PERFORMANCE.

The explanation of the preceding statement is beyond the scope of these writings.

My PERSONAL preference goes to TDK, MAXELL, BASF and AGFA. It is my conviction that there is no other brand that even comes close to the consistently high quality of these four top brands. I have listed these in the order of my preference, with just slight differences in quality.

b. Dust.

Whenever the tape to head contact is less than intimate, a signal loss is encountered. Without providing the mathematical derivation (this is hardly the place for such an exercise), the so-called spacing loss in dB can be expressed in the simple form:

$$\approx 54.6 \text{ s}/\lambda$$

These losses are less severe in the recording process than they are in the playback process; note that a tape/head spacing s of a mere 25 microinches ($0.625 \mu\text{m}$) would cause a 10 kHz signal at the tape cassette speed of 1 7/8 ips ($\lambda=4.75 \mu\text{m}$) to drop 7.2 dB in output level!

The average diameter of a CIGARETTE SMOKE particle measures about 25 microinch...

It can therefore be readily visualized what a so much larger DUST particle between tape and head would do!

KEEP THE CASSETTE AWAY FROM DUST SOURCES (CIGARETTES, ASH TRAYS, PENCIL ERASINGS!). DO NOT LEAVE THE CASSETTE OUT OF ITS PROTECTIVE BOX IF IT IS NOT BEING USED IN THE RECORDER.

DO NOT USE CASSETTES WHICH HAVE OPEN WINDOWS. THESE SHOULD BE PROVIDED WITH SOLID, CLEAR AND SEALED PLASTIC "WINDOW-PANES".

These windows are for visual monitoring of tape usage; they are the rectangular slots between the hubs. If you can poke your finger in them, dust can enter too. I have two British Spectrum cassettes that have such open slits instead of real sealed windows. Phooey!

ALWAYS REWIND THE TAPE AFTER USE; DO NOT UNNECESSARILY EXPOSE THE TAPE THROUGH THE HEAD AND PINCH ROLLER OPENINGS.

Unprofessional habits expose the tape to the collection of dust, finger prints and general abuse.

c. Inadequate tape to head contact.

There is a pressure pad in the cassette, behind the tape, meant to insure intimate mechanical contact between tape and head. The standards call for a specific pressure between pad and head of between 1.0 and 1.5 gram per square millimetre. Too low a pressure might result in erratic separation (loss of contact), too much could lead to excessive tape and/or head wear.

Sometimes, the pressure pad is not properly aligned, preventing some intimate head contact. This, in turn, may lead to inadequate high frequency response, as Figure 15 (next page) demonstrates. The frequency response curves were taken of one and the same cassette, with the original (mal-adjusted) and subsequently properly adjusted pad alignments. The same portion of tape was used for the test.

Note that the pad adjustment caused the output level at high frequencies to improve as much as 10 dB!

This brings us, maybe as a surprise to you, to the use of a STEREO recorder for data SAVEing and LOADING. Conceivably, some of you may just be doing that. Nothing wrong with that; you just have to be aware of something.

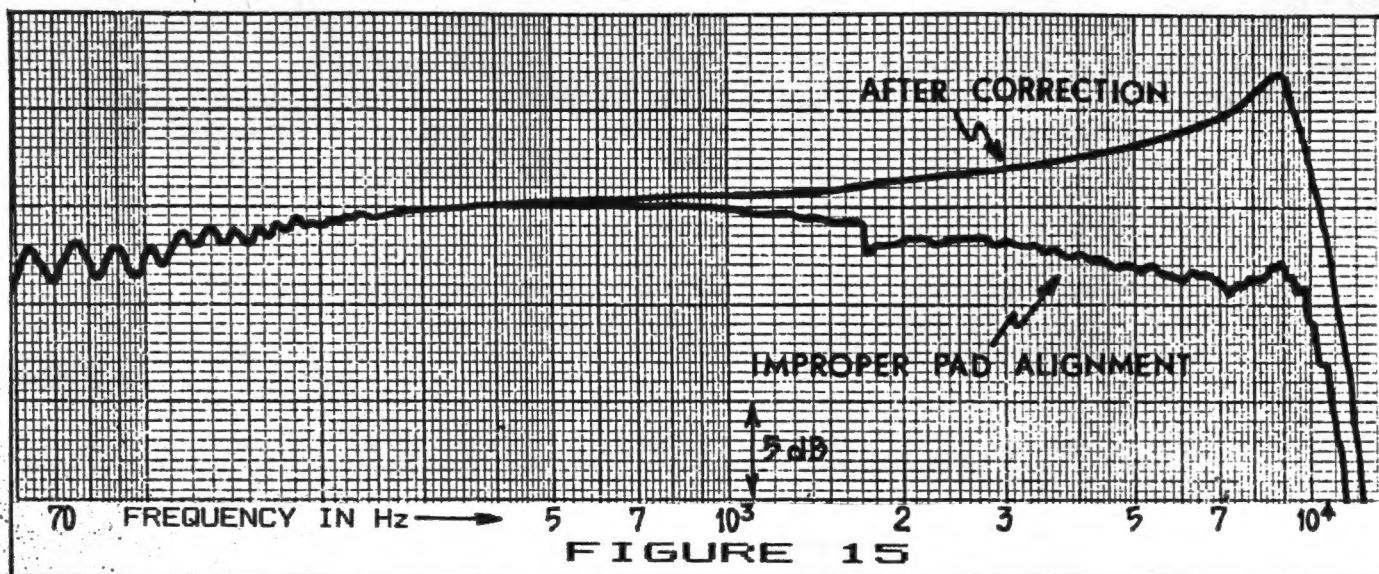
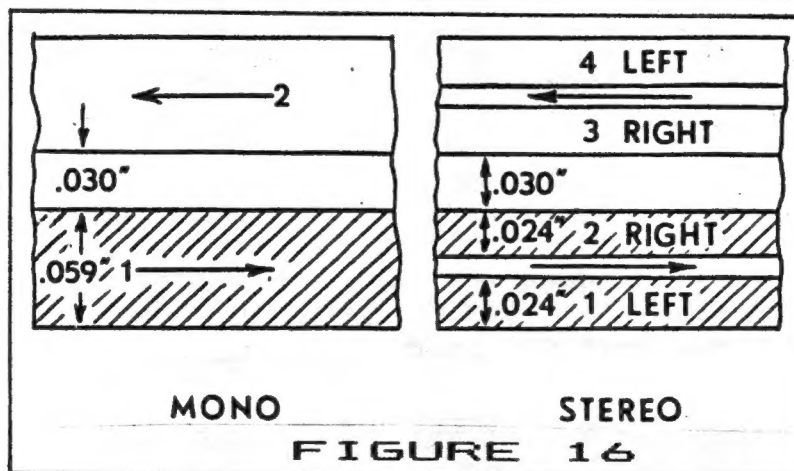
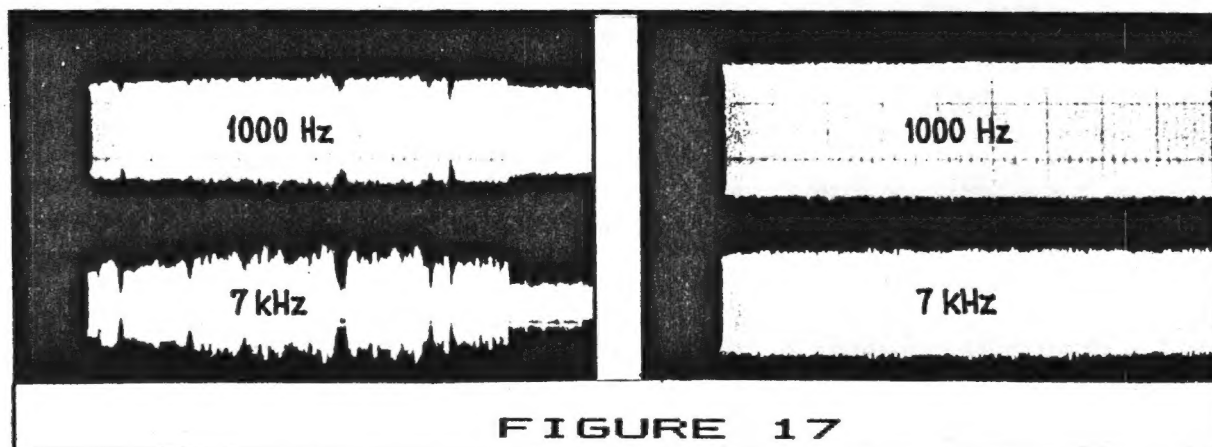


Figure 16 shows the track configuration for single channel (monaural or mono) and for dual channel (stereo) formats. Notice that in the latter, the tracks nearest to the tape edges are the LEFT channels.

There is the chance, with a marginally aligned pressure pad, that the tape edge will be the first to suffer from inadequate head contact.



This is dramatically shown in the next Figure 17, which shows the relatively rare, but nevertheless very possible and real situation of an otherwise perfect performance of a tape in the RIGHT channel (righthand oscillogram) and a totally unacceptable performance in the LEFT channel (lefthand picture).



To be on the safe side, therefore, if you have to use a stereo recorder:

USE ONLY THE RIGHAND CHANNEL FOR DATA STORAGE IN A STEREO CASSETTE SYSTEM; DO NOT USE THE LEFT CHANNEL.

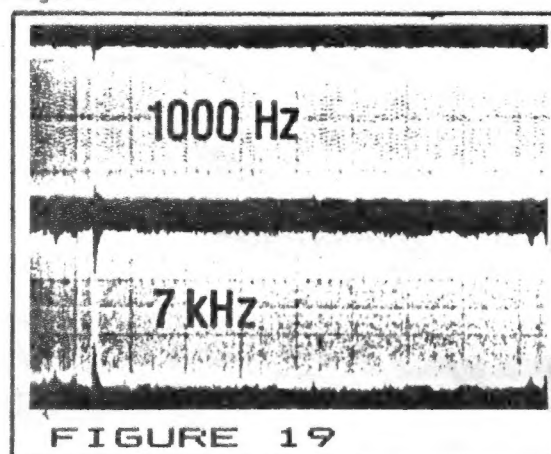
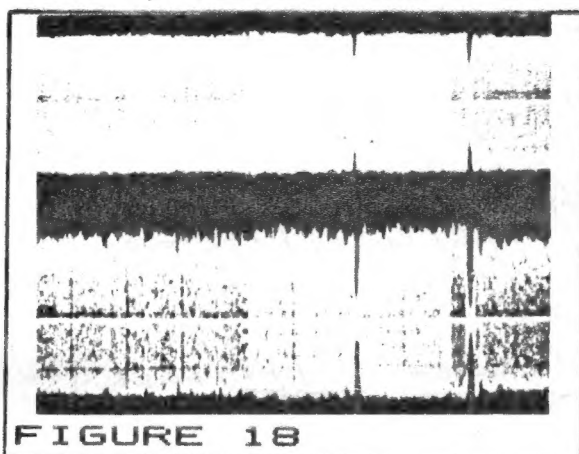
To demonstrate the devastating effects of fingerprints, a single fingerprint was put, through the head window, on an unused portion of the high quality tape used for the dropout test of Fig.11. A dropout test on this portion of tape then revealed a couple of severe dropouts (Figure 18)!

KEEP YOUR FINGERS OFF THE TAPE. DO NOT EVER TOUCH THE OXIDE SURFACE!

e. Abuse.

Next, another unused portion of the same tape was gently pulled out of its cassette housing, through one of its pinch-roller windows, to form a short loop of some 15" length and subsequently spooled back into the cassette. The tape was handled with new, soft plastic gloves and care was taken to avoid contact with possibly contaminated desk-tops.

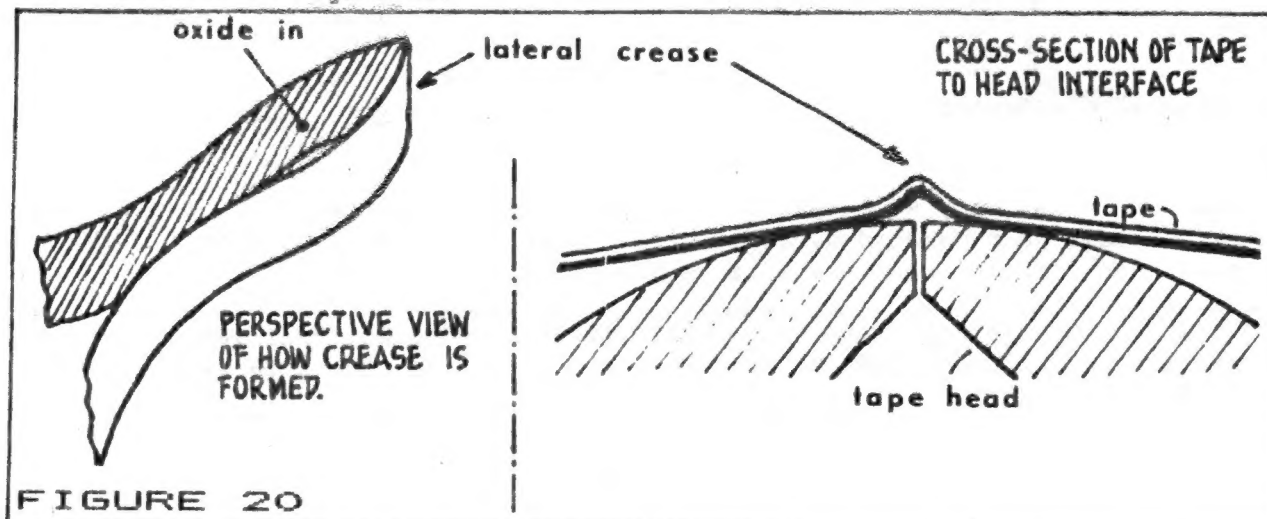
This slight amount of gentle handling also introduced a number of dropouts, possibly caused by minute scratches on the oxide surface (Figure 19).

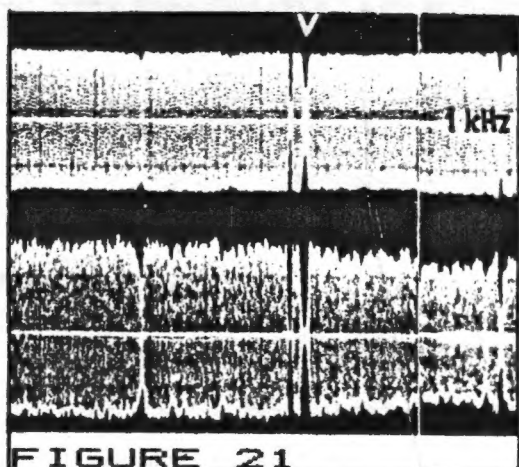


The thin cassette tape is not only easily scratched or scraped, but also most likely to develop creases when it is inadvertently abused.

I have seen cases where the tape had wrapped itself around the capstan because binding of the take-up reel had caused a temporary slackening of the tape tension between these two components. Even if such an event is immediately recognized and the transport mechanism brought to a halt, a sharp crease has been made in the tape.

Such a crease has the oxide INSIDE its loop, as sketched in Figure 20. When this creased portion of the tape travels across the head, some separation occurs as is also sketched in Figure 20.

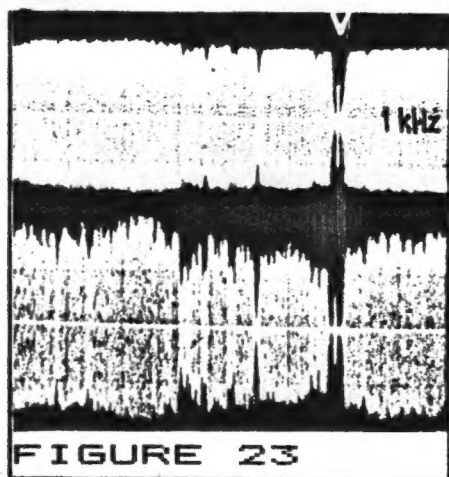
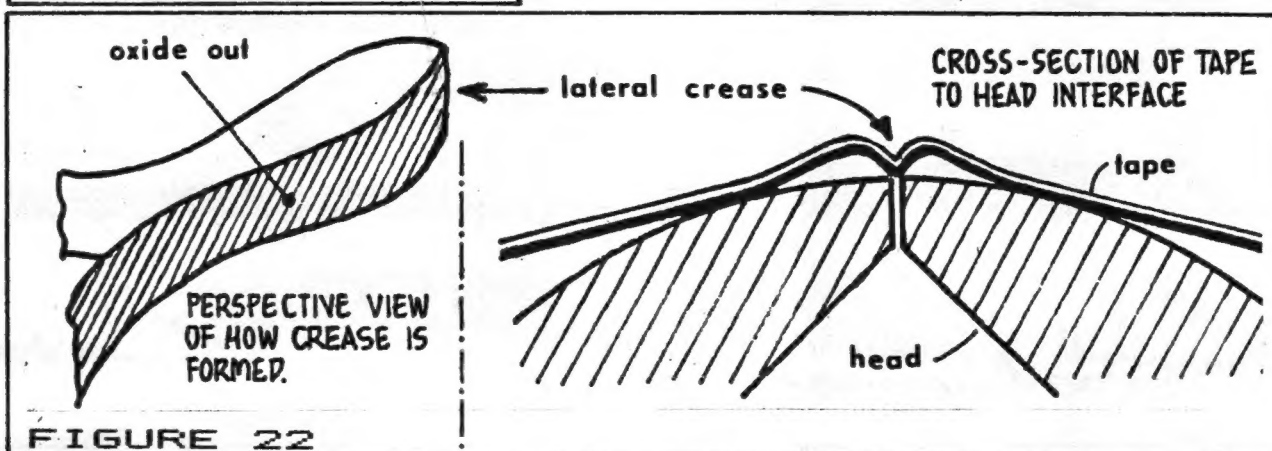




This causes the sharp dropout shown in the oscillogram of Figure 21. We actually see two adjacent dropouts here; close scrutiny of the sharp crease seemed to indeed suggest that it was a compound crease.

If the tape becomes creased with a loop pulled out of the cassette, it is likely to have the oxide surface on the OUTSIDE, as sketched in Figure 22.

This creates an interesting pattern, since there will be TWO portions where the tape is lifted away from the head, with a center portion where tape/head contact is again established.



The resulting symmetric dropouts are evident from Figure 23.

We may conclude that it does not take much to cause dropouts to appear in a 1 7/8 ips cassette system. Dropout durations of a few milliseconds may pass unnoticed in music and speech, but may render on-off data recording and playback in a cassette system rather unreliable.

A number of "tape care" accessories can be found on the market, which are apparently designed to (and I quote) "fix damaged cassettes", make editing and repair easy", "straighten and help you rewind, clean and repair tangled tapes".

Well, these items may very well save a music or speech cassette, but don't think that they can save your damaged data cassettes. Once these get ruined in any of the ways I have described for you, there is really no way of saving them!

DO NOT TRY TO "REPAIR" ANY TANGLED CASSETTE TAPE! UNTANGLING, SPLICING AND OTHER HANDLING WILL INVARIABLY CAUSE A GREAT NUMBER OF DATA TO BE LOST BECAUSE OF ADDITIONAL DROPOUTS.

This is it for now; we will be back with our final article in the next issue of LIST. Meanwhile, if you have any questions, comments or observations, feel free to call me at (516) 331-9646.

64 Columns - The "Soft" way.

This is a test of C. Choo's word processor adapter for use with Wes Brzozowski's 64 column BASIC code. It was fairly easy to adapt the UP Program following Wes's description of how his code works. Choo's program was written in straightforward, easy to follow BASIC, and that helped considerably.

First, I changed all the Print statements which addressed 32 columns to 64. Page lengths of 640 characters were replaced with 1280.

Next, all references to CLE commands were replaced with FLASH @. This didn't work all the time, but I found that a Print AT @, @ & FLASH @ would always clear the screen.

Finally, the INK statements had to be modified, since they control PAPER as well with Wes's code. I prettied up a few of the 32 column print statements to take advantage of the new line length, and added auto-run to the program.

The program is still too slow for touch typists, but is good enough for us "hunt-n-peckers".

Let's stop and try for a printout.

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```
***** T-WARE *****
T-FILE 16 OR 64) FILE MANAGER
ALL MACHINE CODE EXCEPT THE FILE
SAVE, WHICH IS EASILY CHANGED.
MP.MATH:16K HIGH SPEED COMPILED
GRAPHICAL MATH GAME PAGE 5 AND UP
SPELL WORLD:16K SPELLING LIST
DRILL PROGRAM. ENTER YOUR LIST
$10.00 EACH. FOR THE T/S 1000
40 PAPER. GREAT FALLS MT 5400
```

WORD PROCESSING

PROGRAM REVIEW--WORD PROCESSOR, "TYPALOT" FROM WIDJUP CO., 1120
HERRIFIELD SE, GRAND RAPIDS, MI, 49507 \$12.50

If there had ever been a TS2080, I would have unflinchingly snatched it up at twice the price. My TS2040 sits on the edge of my 2080 with minimal connections and no hassle. Silently it awaits my unpremeditated LLIST, LPRINT, or rare virtue, COPY. These utilitarian virtues way beyond my 80 column printer have endeared the midge to me. But oh, the embarrassment!

Those TFathetic strips--I've presented a 3 ft. beribboned scroll, caddged the cardboard core from a roll of Delsey and nailed the yardage wound around that prop, accordion-pleated reams to fit envelopes, etc. Some people quibble about letter-quality. I keep asking, "Is this a breach of friendship?"

"My word!" would be a better name for this word processor. But you ask for "Typalot". The exclamations are due to the ser-

endipitous spurts of sideways copy premeasured with dotted lines for "Ship here." With a staple in one corner the several pages exactly fit a business envelope--no ribbon, no Delsey, no folds.

And no manual. The few directions needed are contained within the program. There is what science fiction writers like to call "a dead-man switch." If you lose your grasp of this, you have blown it. Forget the only escape from the text--Caps --and you get to turn off the computer and begin again at the LOAD "Typalot" stage. While you will not be getting block moves or search and replace capabilities, this program can handle the essentials well. If you have not yet attained to Computer Nerd status, Bill Pedersen of Widjup Co. is endlessly patient and answers the most amateurish questions promptly. I qualified him on most of them. The need to type two lines for one was not immediately apparent to me. The lack of wordwrap is, however, less annoying in this format than in the thirty-few spaces usual to the TS2040 wordpros.

Since the TS2040 is the handiest of scribble pads, it's time to make the output presentable.

Ucan, Kealy

LICA BBS # (516) 561-6590

General Meetings are at N.Y. Inst. of Technology, Old Westbury Campus, Third Friday of each month at 8:00PM. Room 508 Building 500.

L ong
I land
S inclair
T imex
G roup



T/S 1500

? U P S I D E D O W N

08/0

IS YOUR
TV SET
UPSIDE
DOWN?

OR-ANY
BUGS?
IN YOUR
PROGRAM

THEN
TRY
NYTSE
NETWORK

SEND SASE FOR INFORMATION TO:
MARTIN L. HELFGOTT
BOX 284 BATH BEACH STATION
BROOKLYN, N.Y. 11214

```

      DIM P$(4,8)
10  LET A$="IS YOUR TV SET UP
SIDE DOWN ?"
20  FOR I=0 TO 3
30  LET P$(I+1)=A$(I*8+1 TO (I+
1)*8)
40  NEXT I
50  FOR I=1 TO 4
60  FOR J=1 TO 8
70  FOR K=0 TO 7
75  IF CODE P$(I,J)=0 THEN GOTO
130
80  LET C=PEEK (7680+CODE P$(I,
J)*8+K)
85  IF C=0 THEN GOTO 125
90  FOR L=8 TO 1 STEP -1
100 IF C-2*INT (C/2)=1 THEN PLO
T 61-(J-1)*8-L+1,41-(5-I)*8+K
101 REM IF C-2*INT (C/2)=1 THEN
PLOT (J-1)*8+L-1,(5-I)*8-K
110 LET C=INT (C/2)
120 NEXT L
125 NEXT K
130 NEXT J
140 NEXT I
150 PRINT AT 0,28;"08,0"
165 PAUSE 100
170 PRINT AT 19,0;"EMERGENCY"
175 PRINT AT 20,10;"GOTO 500 IM
MEDIATELY"
200 DIM P$(4,8)
210 LET A$="OR ? ANY BUGS IN
YOUR PROGRAM?"
220 FOR I=0 TO 3
230 LET P$(I+1)=A$(I*8+1 TO (I+
1)*8)
240 NEXT I
250 FOR I=1 TO 4
260 FOR J=1 TO 8
270 FOR K=0 TO 7
275 IF CODE P$(I,J)=0 THEN GOTO
330
280 LET C=PEEK (7680+CODE P$(I,
J)*8+K)
285 IF C=0 THEN GOTO 325
290 FOR L=8 TO 1 STEP -1
300 IF C-2*INT (C/2)=1 THEN PLO
T (J-1)*8+L-1,(5-I)*8-K
310 LET C=INT (C/2)
320 NEXT L
325 NEXT K
330 NEXT J
340 NEXT I
350 PAUSE 200
355 GOTO 500
360 PRINT "          SEND SASE FOR L
ISTING TO:"
370 PRINT "          MARTIN L. HEL
FGOTT"
380 PRINT "          BOX 284 BATH BEACH
STATION"
390 PRINT "          BROOKLYN, N.Y.
11214"
395 STOP
400 PRINT "GOTO 200 TO TURN T
HE TV SET
UPSIDE DOWN"
500 PRINT
600 PRINT "GOTO 0 TO TURN T
HE TV SET
UPSIDE DOWN"
650 STOP
660 PRINT AT 0,0;"FROM"
661 PRINT AT 1,0;"TO"
662 PRINT AT 2,0;"ADDRESS"
663 PRINT AT 3,0;"EXAMPLE"
664 PRINT AT 4,0;"SINCLAIR"
665 PRINT AT 5,0;"
710 PRINT
720 PRINT
730 PRINT " ? U P S I D E
D O W N ?"
740 PRINT "
2000 SAVE "UPSIDE DOWN"
3000 GOTO 1

```


IMPROVING THE SPECTRUM EMULATOR EMU

Several people have indicated that, for more Spectrum programs to RUN properly, the remaining data lines in the TS2068 should be pulled up. In the computer, only D2 is already taken care of. Tom Bent has shown in SyncWare News Vol.2 No.4, a method to remedy this situation. It entails opening your computer though.

I elected not to do this. What follows is a description of a simple modification to Doug Dewey's EMU-1 board.

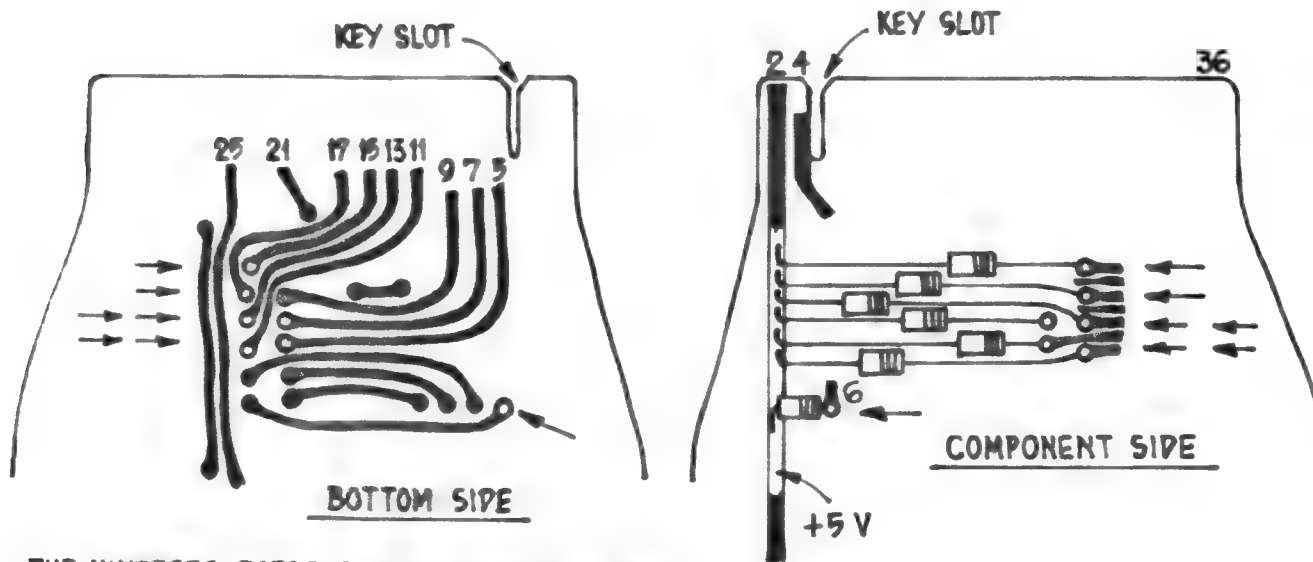
First I removed and discarded seven feedthroughs in the EMU board. These are indicated in the two illustrations as OPEN CIRCLES at the end of a trace. Arrows point to their locations. I have only shown those traces which count; my board bears the identification EMU 1.2.68.1.

Seven 10 kilohm resistors, 1/8 W, nice and tiny, were then soldered to the seven locations, as shown in the illustration. The resistors' pigtails now serve as the new feedthroughs (they have to be soldered on both sides of the board). The pigtails at the other end are then shaped and trimmed to be soldered to the +5 V bus trace. I, of course, used spaghetti insulation on the pigtails.

A Spectrum game, such as CHEQUERED FLAG will now LOAD and RUN. Have fun!

June 20, 1985

Cedric R. Bastiaans



THE NUMBERS REFER TO THE PINOUT OF THE CARTRIDGE CONNECTOR J4.

PROGRAM TIPS (ZX81 - T/S 1000)

TO LIST NUMBERS IN A COLUMN

```
PRINT TAB.15+(N<.1 AND N>.1
AND N) + N<1 E-6 AND N>- 1 E6
AND N) -LEN STR$ INT N;N
```

TO FIND AN ADDRESS OF A LINE*

```
ENTER ON THE LINE ABOVE THIS LINE
PRINT PEEK 16425+256*PEEK 16426-50
```

GOTO THIS LINE*IN SLOW -
WITH FINGER PUSHING BREAK, THEN
DELETE THIS LINE, ADD 4 FOR STATEMENT
ADDRESS

TO SAVE & SELF START WITHOUT A STATEMENT LINE

RESERVE 7 BYTES FOR MACHINE CODE.
(NOTE ADDRESS)

ENTER M.C. AS FOLLOWS:

HEX	DECIMAL
21 70 40	38,125, 64
22 29 40	38,41, 64
C9	201

TO USE - TYPE DIRECT COMMAND:

IF USER (MACHINE CODE ADDRESS) THEN
SAVE "PROGRAM NAME"

WALTER BADER

Letters to the Editor

Great Issue...

To the Editor:
Congratulations
fabulous first
Computer
problem
duct

Computer Living
NEW YORK

If you've got the Timex...

Dear Editor

I just received my copy of the "new" Computer Living - N.Y. and I decided to contact you directly to tell you that I'm disappointed. It's unfortunate, but your newspaper has become just another listing of business software/applications covering the IBM and Apple with a small smattering of C-64.

There are many of us out there that do not own IBM's or Apples and have no desire to purchase the machines or use the overpriced software that is necessary to make them do anything meaningful. I have been reading Computer Living because of its excellent listing of local bulletin boards for users groups. These resources have helped me to reach other users with similar interests. The loss of these 2 listings is deeply missed.

Just in case you are interested, I am an avid user of the Timex-Sinclair 1000 - that little "toy" which now contains Epronread circuits, 64K, a full-sized tape storage system. I use this machine to assist in education record keeping and clerical chores, as well as for writing random tests and occasionally within my science classroom at James Madison H.S.

Just in case you think I'm alone, there are now over 100 members in our local area Timex User's Group (L.I.S.T. - Long Island Sinclair Timex Group) and the membership keeps rising. We are real computer users and hobbyists. People who develop their own hardware and software instead of simply popping a disc into the slot and running other people's programs.

I would like to see more attention paid to the "small" computer user and those of us who have managed to survive using orphaned machines. I would also like to see accurate information about school computer applications in the NYC area - not Kettering, Ohio. It may come as a shock - but we have a similar system at James Madison H.S. in Brooklyn N.Y. and the Telos machine notifies parents of cut classes.

I hope you accept my comments constructively and make changes necessary to satisfy current readers.

Steven Kaye

COMPUTER LIVING New York (ISSN 8750-4578) is published monthly by Wolf Communications, Inc. Address: 5780 Tynall Avenue, Riverside, New York 10471 Telephone (212) 811-8882.

JERRY HAACH WANTS TO KNOW:

Has any one ever had success with the Zebra Graphics Tablet with a High Resolution monitor like the (Sears 4084) using the RGB INPUT, from an Oliger Expansion Board?

I tried, on three different computers, and it doesn't work.

This should work O.K. Anybody know the answer?

LIST Group

How "letters" work - A Bootstrap

We receive dozens of requests for information each month. Some are general in nature, but most ask us specific questions about hardware, software, and compatibility.

Since we don't (and can't) have all the different types of HW & SW available, your editorial staff simply can't answer all the questions raised. We try, e.g., by sending pages from back issues of LISTING or referring the questions to another source of information, but we need your help.

If you see a question in the letters section, and you know the answer, please send the answer to LISTING and/or the individual. If you send it to us, we'll publish it and pass it on.

Oh yes, we don't print members street addresses unless told specifically to do so.



Dear LIST:

Just a note to say I enjoy every issue of LIST. Also glad to hear you are now a S.I.G. In the ZEBRA BBS. It is real nice to have the TIMEX/SINCLAIR world grouping every day thanks to Groups like LIST.

I have a T/51500 with a Bute-Back MD-2 modem, a Zenith monitor and a Banana-Gorilla Printer. I recently purchased the "WORDPRO" word processor from PEAK and the whole system works like a charm. I have tried the MEMOTECH I/F with the MEMOTECH word processor but found it to be too cumbersome so I gave up on it.

My son lives about 40 miles from my home and he has a like system. We spend many late hours communicating via the modems. The Bute-Back modem is a very versatile unit and drives a serial printer without the need of an additional RS-232 I/F.

Someday perhaps I'll be looking to buy a SPECTRUM but until then the T/51500 fits all my needs very nicely and plays an important role in my family.

Butten, Ma. 01527
July 8, 1985

Computer's yours,

Arnold Newmanoff

A. Nieuwenhoff

July 2, 1985

Mr. Nashir Pashtoon
C/O LIST
P.O. Box 438
Centerport, N.Y. 11721-0438

Dear Mr. Pashtoon:

I was wondering if I could ask for your assistance in this problem I am experiencing. Since I consider you the foremost authority of the Timex Sinclair computer family, let me describe my situation:

I currently have a TS 2068 converted to a Spectrum using G. Russell's Romswitch. I recently upgraded the system by purchasing a microdrive adapter board (EMU-4), interface 1 and single ZX microdrive. My problem (and it maybe be a selfish one) is that I would like to use my Westridge 2050 modem with this setup, all hooked together. Unfortunately, as I have attempted several configuration, the 2050 modem simply will not work in harmony with Interface 1. I seem to be able to call out, but when a connection is made (as indicated by the red light), the computer simply freezes and does not respond.

At first, I assumed it was the reconfigured EMU-4 twister board that corrupted the signals. However, I have successfully hooked the modem on back of the EMU-4, and it works just fine in this configuration. The next brainstorm I had, I purchased a Currah U Slot and hooked the modem on one edge connector, and Interface 1 on the other. Same problem - No response on connection.

My question is there any solution to this problem, or is what I want to accomplish impossible? Thus far, I have heard of no logical explanation for this problem, other than interface 1 somehow intercepts the connection signal. Just further information, I also have piggy-backed of Interface 1 a TS 2040 printer and Aerco centronic interface. I have experienced no problems with either device in this configuration.

Well, Mr. Pashtoon that's my story. Any light you could shed on this dilemma would be greatly appreciated. I have heard so much about your knowledge of Sinclair computers, I felt compelled to write. Thank you for your time.

Yours sincerely,

Steve Ishii
Steve Ishii

P.S. If you prefer to call, I can be reached at (714) 993-8708 days (Call Collect.)

LLOYD R. PAINTER

QUAKERTOWN, PA 18951

7/8/85

Mr. Paul Donnelly
LIST Group
P.O. Box 438
Centerport, NY 11721-0438

Dear Paul:

I just, today, mailed on the Library 3.5 tape to Tom Bent. It was a great tape and had some very interesting programs. I thought that the most novel one was "KEYWORD68". I am going to spend as much time as necessary to try to figure out how it works. I would never have thought to locate a machine code program where the author has his "MAIN" routine.

The tape was MUCH easier to LOAD than the previous one. I hooked up the Winky Board 2000, turned the volume control to maximum, and was able to LOAD every program.

Another program that was on the tape that I had seen previously and found to be useful was "bold". I am typing this letter using my own 64-column machine code "word processor" for my TS-2068. It is an improved version of "actype" which I added to the previous library tape. (I know, I committed a deadly sin by sending along documentation) The main improvement that I made was to add a revised version of the AERCO printer-driver program in order to see the fruits of my labors on a full size printer.

Now to the point.. The other major change was to add the "bold" character set. I think that it greatly improves the legibility of the 64-column code. The only problems were the lower case "w" and "m", both of which appeared to be small squares. Revising those two characters has helped them, also.

Now, to other business. Could you (or whoever handles these things) please let me know what I owe in order to bring my membership up to your schedule - February thru January. I joined last November, but you also sent me the October & September newsletters so I figure I owe enough to cover 5 (lets call it 6) months dues. Agreed? Please advise.

Last fall I foolishly (optimistically?) renewed my subscription to SYNTAX thru Dec. '85. The last issue that I received was the Nov. 84 issue (this Spring sometime). Has anyone received a later issue? I saw in the last T-S Horizons that Olson says that he is no longer taking subscriptions, but will complete all current ones. My god! And he was the one complaining about people (advertisers) not paying their bills (otherwise known as meeting their commitments).

I hope to see a review of the Imex (Portugal) disc drive system before too long. Sounds interesting. But is it worth it? I wonder what other computers a 3" disc drive could be used with if I decide, eventually, to go to a different computer.

Enough!

Regards,

Lloyd Painter

Lloyd Painter
Quakertown, Pa

P.S. I SAVED my machine code "renum" program on the spare tape that came with the library tape. There are several things that I overlooked when writing the program: a "VAL 123" type address and marking, in some way, lines containing addresses with a variable (i.e. 60 TO 100*H). Oh, well!

LLOYD:

Bold is a must.
Your membership info has been sent.
No - looks like syntax may have bitten the dust.

SHELDON S. WEINBERG

BROOKLYN, NEW YORK 11223

7/14/85

L.I.B.T. Group
P. O. Box 438
Centerport, New York 11721

Dear Paul:

Just received the August 85 issue of "LIST".

I typed into my (new) TS-2068, the "PASSWORD" program shown on page 22. When I tried to run it, I kept getting error codes.

The error codes were:

- 1- 'M' Rastop No Good
- 2- 'A' Out Of Memory
- 3- 'C' Nonsense In Basic
- 4- The computer NEMED itself.

I'm enclosing a "Self-Addressed-Stamped-Envelope" in hope that you could send a clarified listing of "PASSWORD" that I can use in my TS-2068.

If not, I wonder if some other member of the group might have a password program that would make it impossible for anyone unauthorized to use my programs without having the right password.

Also, would you give me the POKE code to convert a "1 REM" into a "0 REM" in my TS-2068. I know the for the TS-1000, which is "POKE 16510,0" to change a "1 REM" to "0 REM" and "POKE 16510,1" to change it back to "1 REM".

Sincerely,

Sheldon

SHELDON:

That "password" program was for a Spectrum. Can anyone adapt it for 2068? Do be sure of that machine code. No one can make your program "impossible" to use to anyone. You can however, make it very difficult to break into.

Some suggestions have appeared in back issues of LISTING. POKEing the line # of the first line to 0 is helpful. Look in your 2068 manual for the "START OF BASIC" address. This is also the first byte of the first line # and is usually Zero. PEEK the next byte and you'll see the first # (assuming your first program line starts with a number lower than 255). POKE that with 0 and you've done it.

List Group

DEAR LIST

I HAVE ENJOYED READING THE NEWSLETTER EACH MONTH AND ALWAYS LOOK FORWARD TO THE NEXT. I JUST GOT LIBRARY TAPE 3.5 LOOP 10. I GUESS THAT THIS IS THE TIME FOR ME TO INFORM YOU THAT I AM A TS-1000 REPEATER (ONLY AFTER THE FACT). NOW MANY TS-1000 LIBRARY TAPES ARE THERE AND HOW DO I GET THEM?

THIS RUNTIME FOR TS-1000 WILL KEEP YOUR PROGRAM FROM STARTING WITH ERROR 5 WITHOUT USING PRINT COUNTERS. IT CHECKS THE COLUMN AND LINE POSITIONS IN THE SYSTEM VARIABLES BEFORE PRINTING. IF THE SCREEN IS FULL A GOSUB IS EXECUTED WHICH HOLDS THE SCREEN UNTIL THE USER IS READY TO PROCEED.

```
100 IF PEEK(16441) + 256 = PEEK(16442) < 1282 THEN GOSUB 9000
110 PRINT "END OF RUN"
120 GOTO 100
9000 PRINT AT 21,0;"PRESS C TO CONTINUE"
9010 IF INKEY$ <> "C" THEN GOTO 9010
9020 CLS
9030 RETURN
```

THE NUMBER 1282 IN LINE 100 CAN BE PLAYED WITH TO LIMIT THE SCREEN SIZE.

SINCERELY,

DOY DAILEY

DON:

GRACE FALLS, NY

You brought up a good point. Members Please keep us posted on your status. There is now 1 full C-60 tape for TS 1000. You will be added to that list. Thanks for the program, too.

JULY 24, 1985
PAUL SOMMELT
L.I.S.T. GROUP
P.O. BOX 438
CENTERPORT NY 11721-0438

DEAR PAUL,

AS A FOLLOWUP TO MY LETTER OF JULY 19, 1985... RECEIVED A REPLACEMENT "WAFADRIVE" FROM SAMCO ENTERPRISE (VERY QUICKLY) AND IT WORKS GREAT...ALMOST LIKE USING A IBM PC...JUST SLIGHTLY SLOWER...IN SOME CASES IT ALMOST FASTER TO LOAD...EXTREMELY HAPPY WITH IT AS I HAVE DECIDED TO STAY WITH SPECTRUM FOR THE PRESENT FOR MY PERSONAL AND BUSINESS NEEDS...

THE MAJOR PROBLEM IS GETTING CASSETTE PROGRAMS TO LOAD INTO THE WAFADRIVE SYSTEM...

HAVE ORDERED A SPECTRUM PLUS...AND HOPE THIS MAY CURE THE PROBLEM...USING THE T/2848 WITH A OMNI/ERU MAY BE THE CAUSE OF THE INCOMPATIBILITY...SEE COPIES OF ATTACHED CORRESPONDENCE ON THIS MATTER...

IF ANYONE OUT THERE HAS ANY SUGGESTIONS...IT WOULD BE MOST APPRECIATED...

THANKS AGAIN FOR YOUR HELP IN THE PAST...

Stan
STAN NABROD

JULY 24, 1985
HUNTER
1630 FOREST HILLS DRIVE
OKEMOS MI 48864

RENTLEMAN:
YOUR ADVERTISEMENT IN THE CURRENT ISSUE OF "TIME DESIGNS" FOR BANK SWITCHING PROGRAM FOR THE TS1000 WAS MOST INTERESTING...

DO YOU HAVE...OR EXPECT TO HAVE SOMETHING FOR THE T/2848/SPECTRUM??? THAT MIGHT HELP RE...

AM NOW USING THE "WAFADRIVE" SYSTEM WITH THE 2848/SPECTRUM AND FIND THAT I CAN NOT LOAD ANY OF THE SPECTRUM BUSINESS PROGRAMS EVEN THOUGH THEY ARE ALL IN BASIC... (ALL COME UP "OUT OF MEMORY" EVEN THOUGH THERE SHOULD BE MORE THAN ENOUGH MEMORY LEFT

ANY HELP WOULD BE MUCH APPRECIATED...

VERY TRULY YOURS,

Stan
STAN NABROD

JULY 19, 1985
COLIN HUMMER
TRANSFORM LTD.
24, WEST OAK
BECKENHAM, KENT BR3 2EZ
ENGLAND

DEAR COLIN,

YOU HAVE BEEN MOST HELPFUL IN THE PAST...I WOULD APPRECIATE YOUR HELP ONCE AGAIN...I HAVE BEEN EXTREMELY SATISFIED WITH TRANSFORM LTD. PROGRAMS...

I AM NOW TRYING TO USE THE "WAFADRIVE" SYSTEM...THIS MAY OR MAY NOT HAVE BEEN A MISTAKE IN NOT GOING TO THE MICRODRIVE SYSTEM...

IN ANY EVENT IN USING THE T/S 2848 AND SPECTRUM ERU WITH THE WAFADRIVE I HAVE FOUND I CAN NOT LOAD YOUR PROGRAMS ONCE THE WAFADRIVE IS INITIALIZED...ALL OF THE PROGRAMS COME UP AS "OUT OF MEMORY"...

CAN YOU HELP WITH THE CHANGES IN THE PROGRAM...OR SUPPLY NEW WAFERS FOR THE WAFADRIVE...WOULD GLADLY PAY FOR ANY HELP YOU CAN GIVE...

I HAVE THREE OF YOUR PROGRAMS...ALL OF WHICH WERE USED DAILY... BUSINESS BANK ACCOUNT...INVOICING... STOCK CONTROL

BUSINESS BANK ACCOUNT AND INVOICING ARE VERY IMPORTANT TO US & WE FOUND NO OTHER PROGRAMS THAT SUITE OUR NEEDS...

THANKS AGAIN FOR YOUR HELP

SINCERELY YOURS,

Stan
STAN NABROD, PRES.

P.S. HOW CAN WE PURCHASE FROM YOU??? BUSINESS CHECK...MASTERCARD...VISA...AMERICAN EXPRESS... ETC... ???

WILL MICRODRIVE STREAM BOX HOLD WAFERS FOR WAFADRIVE?

STAN:

I don't have a WAFADRIVE but, the way it's been explained to me, your problem may not have a practicable solution.

While the addition of the 7 pull-up resistors helps with interrupt driven software and NAZIR's "hanging wire" solution aids "timing" (see Dec/Jan) there is still the problem of memory management

Specifically, the WAFADRIVE uses a healthy chunk of System RAM in what is normally the BASIC area. This means that: #1 you loose some 600 bytes of space, #2 if your program has nonrelocatable machine code in a 1 REM statement, it simply cannot work, without major re-write.

CURLEY BUILDING MATERIAL, INC.
105 Carmel Dr. W.
CARMEL, INDIANA 46032

(317) 846-2566

To L.I.S.T. Group
P.O. Box 438
Centerport, N.Y. 11721-0438

Memo LETTER

Date 7-9-85

Subject Re: April Newsletter

FROM: H.L.U. PULLIAM
AUSTIN, TX 78767

TO: LIST GROUP
STAN PAUL

6/23/85

RECEIVED THE JULY ISSUE OF THE NEWSLETTER ON THE 22ND, IN THREE DAYS AFTER IT LEFT NEW YORK POST OFFICE ON THE 19TH WHICH IS FAST ENOUGH DELIVERY TO AUSTIN, TEXAS.

THE US FLAG PROGRAM WAS A 2066 ORIGINAL. THE MAY RANTOP PRINTED

ONE FOR TS1000, AND AS YOUR 1000 USERS MAY BE INTERESTED IN THAT PROGRAM IT IS ON PAGE 5, MAY 1985. IT WAS MY IMPROVEMENT OF A SYNC PROGRAM P17 V4#1 BY DAN HATEJZYK 20155 KESUICK ST. CANOGA PARK, CA 91306 (IN SHARING SHORT PROGRAMS COLUMN-JUST FOR FUN. DEFINITELY, FLAG PROGRAMS SHOULD BE IN THE PUBLIC DOMAIN IN MY OPINION, AND ADHEREING TO HIGH STANDARDS. THE

TIME I SPENT WAS REWARDED BY THE THOUGHTFUL LISTING BY YOU & ALL IN THE GROUP AS IT HELPS ONE TO STAND TALL ON FLAG DAY & JULY 4TH AND OTHER APPROPRIATE TIMES & SO I SEND MY SINCEREST APPRECIATION AND REGARDS. AS EVER Harvey

PS AM USING CHRIS NYSTROM'S UP TO 2000 QUICK NOTE PROGRAM.
USING 8070 8080 11 WORKS

Dear Paul,
I have \$6.00 on account - Please apply it to Everett Talavera's account (Club Uniao Tls, MEX.). Also if you will send me his address I have some T/S 1000 stuff I'll send him (Software & Hardware) - I can also help him with his "Money-in-the-mail" problem as I have a Bank Account in Mexico and I can mail you his money thru my U.S. Checking account and he can put this money in my Mexico Account.

MARTIN:

Everett's Address is:

Everett Talavera R.
P.O. Box #21
Col. Tlaxpala
Mexico, CP 11370

necessary

Keep up the good work,
Sincerely
Marty Curley

VENDOR REPORT

James Zilvitis WA1JBS
37 A Skyhollow Court
Oakville, Conn. 06779

Former Technician for TIMEX has hardware and software: e.g., 48K Spectrum - Only \$60.00, 48K Spectrum & complete (Power Supply, etc.) \$75

TS 1500 - \$50 - Computer only
TS 2068 - \$110 Complete
TS 2050 - Modem - \$90.00
add \$3.50 for shipping & Handling.

SAGUARO SOFTWARE
PO Box 1864
Telluride, Co. 81435
(303) 728-4937

Reports having the AMDEX 3"
Dual Disk Drive for \$199.00
3' Diskette at 10 for \$25.

John Bell
(thru EMC)

Has Keyboard Overlay s for 2068. These are die cut Plastic sheets which you can mark with your own special key functions.

Research Service Labs
PO Box 19124
OKC, OK 73144
(405) 745-9322

EPROM Programmer - \$80
Floppy Disk Drive Controllers - \$190 and more.

Thomas B. Woods
PO Box 64
Jefferson, N.H. 03583
(603) 586 7734

Pro/File 2068 & 1000
Also has M Script/Hot Z etc.
at List Price. Takes plastic.
Breakthrough, a new Publication
for PRO/FILE 2068 owners is \$7.95

TIME Designs Magazine
29722 Hult. Road
Colton, Oregon 92017
(503) 824 2658

\$15 for a one year subscription for a fine publication dedicated to TS computers.

Zebra Systems
78-06 Jamaica Avenue
Woodhaven, N.Y. 11421

New Catalog 1985B
Spectrum Emulator \$19.95
New! Expansion interface \$30.00
(Basic Version). Has complete line of HW/SW

Knighted Computers
707 Highland Street
Fulton, N.Y. 13069 (315-8219)

Super Sale through 8/16/85 - TASWORD II - \$16.96
Quicksilva (2068) \$11.95 ea. (some \$3.50)
A&J Centronics \$29.95 - Alphacom Printer \$35 +\$7 P&H

D. Lipinski Software
2737 Susquehanna Rd.
Roslyn, Penn. 19001 (215-572-6812)

Buyers Guide - \$20.00 Lists most HW/SW sources & User Groups

LISTing Policy:

Annual Dues.....\$15.00 Issue Price \$1.50 (includes P&P) - Double Issues \$3.00

One "Sample" copy sent upon receipt of large SASE.

Copies provided on exchange basis with other bona fide user groups.

L.I.S.T.ing is published monthly by LIST (Long Island Sinclair Timex) Group,
a non-for-profit users group.

NOTE: PARTIAL YEAR MEMBERSHIPS AVAILABLE

Normal membership year is Feb. through Jan. at cost of \$15.00 (US)
By keeping as many members as possible on that basis, we keep our
costs and chances of error down.

If you wish to begin subscribing later in the year, please sign
up for the end of this year and all of next.

We will accept partial years or different subscription runs,
on a limited basis (particularly from members outside the U.S.)
But, please be aware that, in addition to possible rate increases,
your "account" must be handled "by hand" and errors may occur.
International (ex Canada) subscribers will receive as many
issues as we can afford to mail

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We are always looking for interesting articles, programs, reviews etc., to
keep our members informed and entertained. Articles submitted for publishing
are printed on the following basis.

- 1) You, the writer, maintain the full copyright and can
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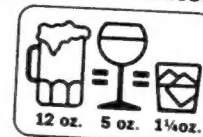
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longer to reach us.

**All are equal
in alcohol content.**



Beer: 4.5% by volume; Wine: 11% by volume;
Liquor: 80 proof or 40% by volume.



Christ Lutheran Church is at the corner of Burr & Larkfield Roads. Take either Deer Park Avenue, or Sunken Meadow Pkwy to Jericho Tpk. (RT 25), North on Larkfield to Burr. Meeting is at 2:00PM Sunday, September 8.



LITTLE GOODIES FOR THE 2068

by George Mockridge EDITION 3

The following "little goodies" are a collection of tips, aids, utilities, etc. that should prove helpful in 2068 programming. Special thanks to John Kuhn of the SINC TIMES in Florida and Stuart Ree of the TIMELINEZ N/L in Northern Calif. for their help. If you have a "little goodie" to share, please send it along and we will add it to the next edition. THANKS
TIMELINEZ
P.O. BOX 1312
PACIFICA, CA 94044

***** POKE 23609,x *****
FOR KEYBOARD CLICK (x= 1 to 255)

***** POKE 23692,2 *****
USE BEFORE EVERY PRINT FOR AUTO-
MATIC SCROLLING. WORKS LIKE THE
SCROLL COMMAND ON THE 1000/1500.

***** POKE 23692,1 *****
ANOTHER WAY TO CONTROL SCROLL.
SCROLLS 22 LINES, THEN A KEY
MUST BE PRESSED FOR EVERY LINE.

***** POKE 23658,8 *****
PUT 2068 IN CAPS MODE.

***** POKE 23658,0 *****
TAKE 2068 OUT OF CAPS MODE.

***** PAUSE 0 *****
PAUSE UNTIL ANY KEY PRESSED.

***** POKE 26711,0 *****
GIVES LINE NO. 0. POKE 26711,1
TO CHANGE LINE 0 TO 1.

***** PRINT *** *****
GIVES LINE FEED TO PRINT
STATEMENT.

***** RANDOMIZE USR 0 *****
USE TO RESET COMPUTER.

*** POKE 23561,# (#=1 TO 35) ***
TIME THAT A KEY MUST BE HELD
DOWN BEFORE IT REPEATS. PREFER
10-15 FOR TEXT.

*** POKE 23562,# (#=1 TO 5) ***
DELAY BETWEEN SUCCESSIVE REPEATS
OF A KEY HELD DOWN. 3 FOR TEXT.

***** USR 15002 *****
TRY THIS TO GET OUT OF AN
INFINITE INPUT LOOP W/O CRASHING

*** DIM A\$(704)
*** PRINT AT 0,0; OVER 1; ****
PAPER 1; INK 6; AS ****
ALLOWS YOU TO CHANGE PAPER AND
INK COLOR W/O CLEARING SCREEN.

***** PRINT #1; AT 0,2; "HI" ***
***** PRINT #1; AT 1,5; "BY" ***
***** PAUSE 0 *****
PRINTS ON LINES 22 AND 23.

***** LOAD ""CODE *****
***** RAND USR 33792 *****
FOR PROGRAMS THAT WILL NOT LOAD.

** LET x=INT(x*10+y+.5)/10+y ***
USE FOR ROUNDING. x=NO. TO BE
ROUNDED. y=NO. OF DEC. PLACES.

* 1 DEF FN r(x,y)=INT (x*10+y+.5)/10+y
* 2 INPUT "Enter a number ";a
* 3 INPUT "Round off to? ";b
* 5 PRINT FN r(a,b)
SETS THE DEFINED FUNCTION TO THE
FORMULA USED TO ROUND OFF. a=
NO. BEFORE ROUNDING. b=NO. OF
DEC. PLACES DESIRED AFTER
ROUNDING.

Well, OK! Here's the answer. Do this:

```
10 PRINT "HELLO";
20 GOTO 10
```

NEXT ENTER:

```
100 LET PROG = PEEK 23635 + 256 * PEEK 23636
110 PRINT "PROGRAM STARTS AT "; PROG
120 PRINT " AND HERE'S WHAT'S THERE!"
130 FOR I = PROG TO PROG + 20
140 PRINT I; PEEK I
150 NEXT I
AND GOTO 100
```

Now look at page 122 in your Spectrum manual or page 255 in the 2068 manual. What you're looking at is the actual BASIC program. The first two numbers are the line #. They should be 0 (for the number of 256's) and 10 (for the # of 1's). To get a line #

POKE (PROG + 1), 0

Now GOTO 100 again, or just LIST your program.

LIST GROUP

PD.

Don
3310 Clover Dr S
Cedar Rapids IA
52404

TO:



LIST
P.O. BOX 438
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LIST
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TO:

LISTING